The role of AI in sport and recreation

SPORT NEW ZEALAND
IHI AOTEAROA

Te Kāwanatanga o Aotearoa
New Zealand Government

Artificial Intelligence (AI) is rapidly reshaping industries worldwide — including sport and recreation in New Zealand. This report breaks down what AI means for us, explores possible futures and offers practical steps to help us act with confidence.

AI: A new era for sport and recreation

AI is no longer a distant prospect — it is already reshaping how we live, work and play. In the past year alone, AI-powered tools have become mainstream, automating tasks, generating content and revolutionising user experiences. While sport and recreation organisations are exploring new opportunities in performance analysis, injury prevention, fan engagement, facility management and operational efficiency, the influence of AI extends far beyond the boundaries of our sector.

AI is transforming the fabric of daily life. It is shaping how much discretionary time or disposable income people have, introducing new forms of entertainment, and improving health and wellbeing through advances in healthcare.

It is also influencing how our towns and cities are designed and operated, which in turn affects where and how people engage in sport and recreation. The challenge for sport and recreation is not just about adopting AI within our own activities but about understanding and responding to how AI is changing society as a whole. We must consider how shifts in work patterns, leisure time, urban environments and personal wellbeing will impact participation and demand in the sport and recreation sector.

As AI becomes as pervasive as the internet, the sector must stay informed and proactive — not only to harness its direct potential, but also to adapt to the broader societal changes it brings. The time to prepare is now.

The rise of AI: How did we get here?

AI's recent surge is driven by 3 key factors:

Powerful computing

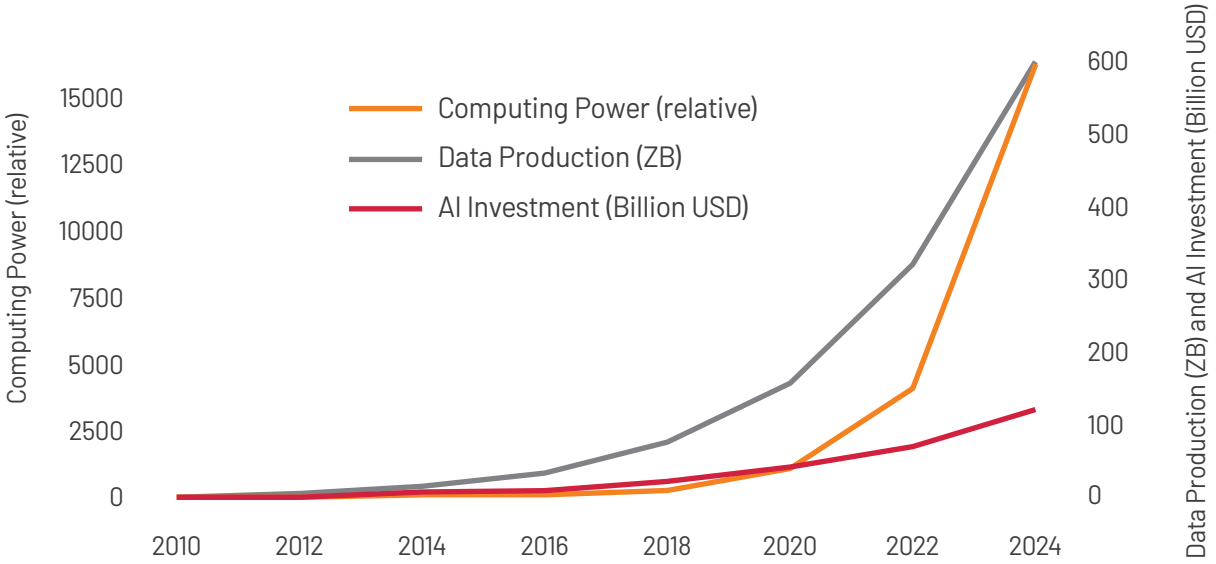
Modern computers process vast amounts of data, enabling smarter AI models.

Data explosion

Wearable fitness technology, social media and sensors generate massive datasets for AI to learn from.

Big investment

Governments and businesses are investing heavily, accelerating AI's development.



But with progress come new challenges:

- Regulations struggle to keep pace.
- Resource demands (energy, water) are rising.
- Trust and ethics are under scrutiny.

Why now? The tipping point for AI

AI has reached a tipping point, becoming a general-purpose technology — like electricity or the internet. Key trends include:

Conversational search

AI chatbots are changing how we access information.

Flexible foundation models

Systems like GPT-4 adapt to diverse tasks.

Industry-wide impact

AI is transforming multiple sectors simultaneously.

What's next? 4 scenarios for AI's evolution

To help you anticipate the future, we present 4 scenarios for how AI could shape sport and recreation by 2035:

1.
Growth

2035 Vision

Exponential AI advancement, seamless integration, massive investment.

Implications

Real-time performance analytics, personalised fan experiences, operational excellence, global talent discovery, enhanced integrity.

2.
Collapse

2035 Vision

AI progress stalls due to resource limits and public distrust.

Implications

Return to traditional coaching, human skills valued, local focus, manual operations.

3.
Discipline

2035 Vision

Strict international AI governance and sustainability.

Implications

Regulated innovation, standardised systems, enhanced oversight, sustainable practices, global standards.

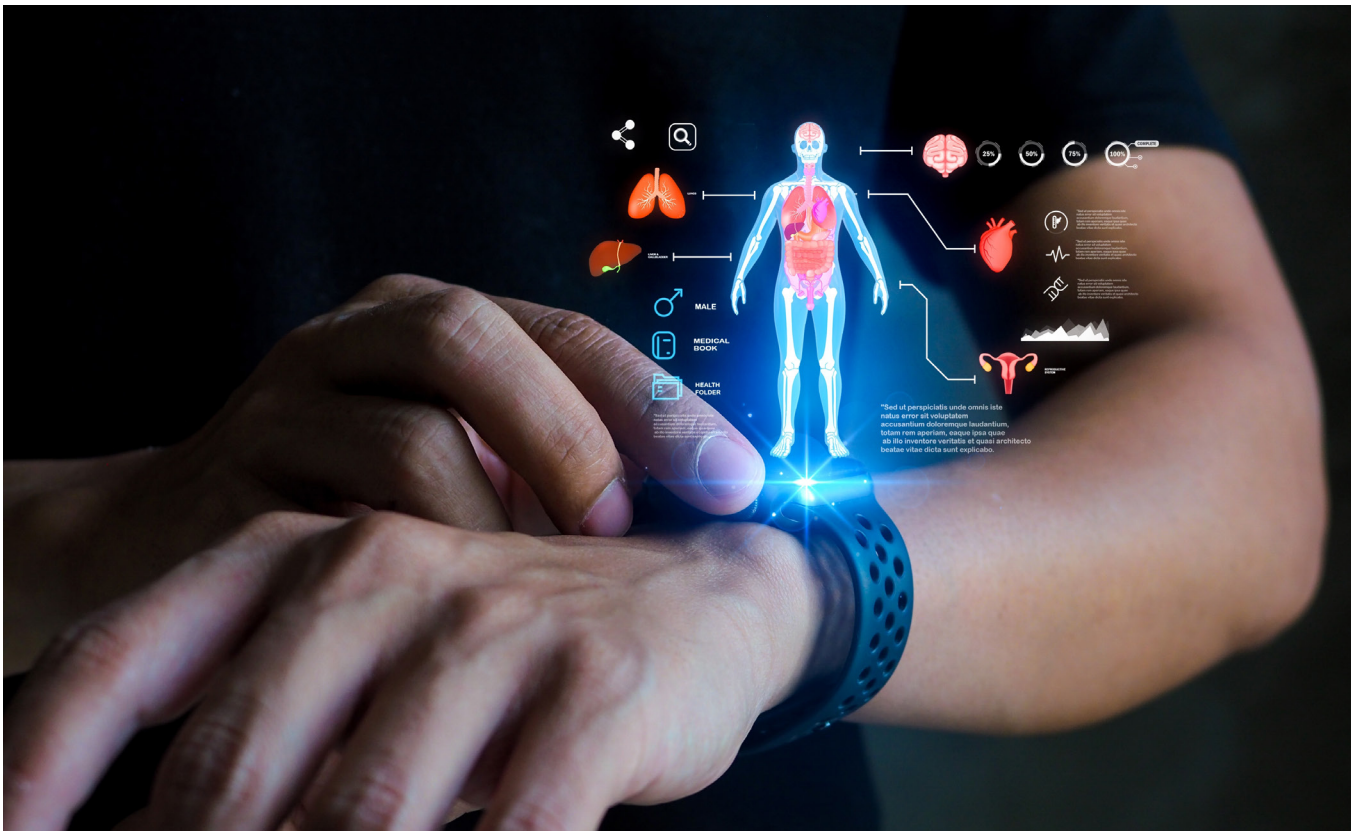
4.
Transformation

2035 Vision

AI-human symbiosis, new paradigms emerge.

Implications

New sport forms, augmented human performance, creative collaboration, immersive experiences, redefined competition.



What do we need to focus on?

To maximise our resilience, we need to prepare for multiple scenarios while remaining agile enough to adapt as the future unfolds. Building strong foundations in human expertise, ethical frameworks and adaptive capacity will serve us well regardless of how AI evolves.

Strategic focus	Growth	Collapse	Discipline	Transform
Investment priority	AI capabilities and infrastructure	Human expertise and traditional skills	Compliance and governance systems	Innovation and adaptation capacity
Risk management	Cyber security and AI dependence	Technology independence and resilience	Regulatory compliance and transparency	Ethical guidelines and human agency
Competitive advantage	AI sophistication and data assets	Human insight and community connection	Regulatory navigation and standards	Creative collaboration and new models

Current state: How are we engaging with AI?

While most sport and recreation organisations are in the early stages of AI adoption — primarily using generative tools like ChatGPT and Microsoft Copilot for content creation and automating routine tasks — it's important to recognise that some national sports organisations have been leveraging AI, particularly machine learning, for the better part of a decade.

It's easy to fall into the trap of equating AI solely with recent advances in generative AI, but the sector's experience with AI is broader and more established than it might first appear. Now, there is growing interest in moving beyond basic generative tools to explore more advanced applications, such as AI-driven productivity solutions and tailored systems for grant administration and reporting.

Barriers to adoption include:

- confusion about what AI is and how to identify it
- need for education on practical uses and benefits of AI
- cost of AI tools, licensing and development
- concerns about data integrity and technology maturity
- resource requirements for implementation
- navigating governance, policy and data privacy.

What others are doing

Small businesses across various New Zealand industries are successfully integrating AI into their daily workflows, particularly in areas like marketing, recruitment and customer service. These examples offer valuable opportunities for us in seeking to modernise our operations.

Area	Small business example	Sport and recreation opportunity
Marketing	AI-driven ads, content and customer review analysis.	Promote events, personalise communications, monitor feedback.
Recruitment	Auto-sourcing, screening, job description drafting.	Recruit staff/volunteers, scout athletes via data.
Customer service	AI chatbots for inquiries, scheduling and recommendations.	Chatbots for bookings/info, recommend programmes/ equipment.
Operations and administration	Automate scheduling, invoicing, inventory.	Automate scheduling, grants, inventory, reporting.

Tackling today's challenges with AI

Challenge	How AI can help
Declining participation	Analyse trends, predict drivers and influences of change, personalise engagement and recommend activities to boost participation.
Financial pressures	Forecast finances, automate funding searches, reduce costs and optimise income strategies.
Inequities in access	Enable rules-driven facility booking systems, identify underserved groups, target outreach and improve accessibility with translation and assistive tools.
Governance and trust	Automate compliance, detect irregularities and support transparent decision-making and communication.
Volunteer/workforce shortages	Match volunteers to roles, automate scheduling and recommend training to improve retention.
Adapting to technology	Integrate systems, automate admin tasks, and provide insights to foster innovation and knowledge sharing.
Infrastructure/urbanisation	Optimise facility use, predict maintenance, automate tasks and inform planning for accessible, active spaces.
Climate change/sustainability	Model climate risks, optimise resource use and efficiency and support sustainable event and facility planning.
Athlete welfare	Monitor health, predict injuries, personalise training, act as a filter for negative social media and provide real-time feedback for safer participation.
Fan engagement	Target and personalise content, automate highlights and tailor marketing for interactive fan experiences.
Performance optimisation	Wearable analytics, video analysis for personalised adaptive training.
Talent identification	Broader, fairer talent pool via AI scouting and unbiased data analysis.

What questions should we be asking ourselves?

As AI rapidly evolves, we're faced with important questions and decisions. To build a future that is fair, innovative and culturally authentic, we need to start thinking and acting now. Below are some ideas to consider.

Theme	Key questions
Access, equity and inclusion	• How can we ensure everyone has fair, equitable access to AI, especially people in rural areas and underserved communities? • How can AI enhance human judgment and equity in sport, without replacing people? • Could AI make inequalities worse? And what can we do (like using digital inclusion and cultural authenticity tools) to help prevent this?
Human vs. machine: tradition, culture and innovation	• Which parts of sport should stay people-led, and where can AI add value without losing tradition or culture? • Can AI help preserve traditional knowledge and values, or does it risk replacing them? How can we protect what matters most? • How might AI support volunteer coaches at a grassroots level, without replacing them? What does this mean for community sport?
Skills, workforce and engagement	• What new skills and roles will be needed for athletes, coaches, and administrators in an AI-enhanced environment? • How can we prepare? • As AI changes how fans engage with sport and recreation, how do we keep audiences connected and culturally grounded? • Do we have the skills and infrastructure AI demands? How can public and private sector partnerships support local solutions?
Data, privacy, ethics and governance	• Who owns athlete data, and how do we ensure there is transparency, privacy and trust? • How can we co-create ethical AI guidelines that reflect New Zealand's diversity, balancing innovation with fairness and cultural values? • What kind of leadership and investment are needed to adopt AI responsibly and flexibly? • How do we foster inclusive collaboration to guide AI strategy?

What can we do today?

Timeframe	Action area	Key actions
Immediate (6–12 months)	Staff training and AI literacy.	Provide introductory AI training. Encourage experimentation with safe AI tools.
	Audit current AI use and opportunities.	Audit software for AI features. Map pain points and explore AI solutions.
	Pilot small-scale AI projects.	Launch pilots for immediate needs. Document lessons and share insights.
	Start the conversation on ethics and inclusion.	Discuss AI ethics, data privacy, cultural considerations. Identify key risks.
Medium-term (1–3 years)	Build shared AI infrastructure and partnerships.	Explore partnerships for shared resources and training. Consider joint procurement.
	Regular scenario planning and risk assessment.	Integrate AI futures into planning. Use scenario exercises for resilience.
	Expand AI literacy and specialist skills.	Upskill staff in AI skills. Encourage participation in learning networks.
Long-term (3–10 years)	Invest in AI capability at all levels.	Embed AI literacy in development. Support pathways for underrepresented groups.
	Advocate for sector-specific regulation and standards.	Engage with regulators. Promote fair and culturally authentic AI use.
	Monitor and respond to emerging technologies.	Scan for new AI developments. Be ready to adjust strategies.
	Foster a culture of innovation and inclusion.	Encourage experimentation. Prioritise inclusion and accessibility.

Conclusion

AI is set to transform sport and recreation in New Zealand. The opportunities are exciting, but the challenges are real. By understanding the technology, focusing on ethics and inclusion and taking practical steps, we can harness AI's power — while keeping people and community at the heart of everything we do.

Appendix 1 – AI adoption readiness checklist

Readiness area	Checklist item	Yes/No
Leadership and strategy	Leadership supports AI adoption and understands its strategic value.	
	AI is included in long-term organisational strategy and planning.	
	Executives are willing to allocate resources (budget, staff, time).	
Organisational culture and skills	Staff are aware of AI and its potential impact on their roles.	
	Plan exists for upskilling staff/volunteers in digital and AI literacy.	
	Organisation encourages experimentation and innovation with new technologies.	
Data readiness	Relevant data sources are available and accessible.	
	Data is accurate, complete and well-organised.	
	Data privacy, security and compliance measures are in place.	
	Foster a culture of innovation and inclusion.	
Technology and infrastructure	IT infrastructure can support AI tools (storage, processing, connectivity).	
	Current software platforms have AI features or can integrate with AI solutions.	
	Process exists for evaluating and adopting new AI-enabled tools.	
Governance, ethics and risk	AI ethics and governance framework exists or is in development.	
	Key risks (bias, privacy, cultural considerations) are identified and managed.	
	Clear process for oversight, transparency and accountability in AI use.	
Business case and measurement	Clear business case for AI adoption (problem/opportunity, expected benefits).	
	Success metrics and KPIs for AI projects are defined and tracked.	
	Lessons from pilots or previous technology projects are documented and shared.	
Partnerships and collaboration	Partnerships with tech providers, sector organisations, or universities are being explored.	
	We have plans to participate in sector-wide AI initiatives or communities of practice.	

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